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BITING INTO THE YELLOW PEPPER:

The Development of the Interdisciplinary Learner

by

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We are delighted to include this print version of the address delivered by Carolyn Haynes, a keynote speaker at the 35th annual conference of the Association for Interdisciplinary Studies, hosted by Miami University in Oxford, Ohio, from November 7 to 10 in the fall of 2013. The theme of the conference was “Integrating Arts and Sciences.” Carolyn Haynes is a long-term member of AIS and past president of the (formerly known as) Association for Integrative Studies. She currently serves as a consultant-evaluator for the Higher Learning Commission and has taught over 30 courses and consulted at over 30 higher education institutions on issues relating to interdisciplinary teaching and learning, student development, and student learning outcomes assessment. There is no one better to share such a creative, integrative and personal message with AIS members. Carolyn Haynes received her Ph.D. in Comparative Literature from the University of California, San Diego, in 1993 and is author of one book, editor of another, and has written over 25 articles on student learning, pedagogy, and curricular issues, focusing primarily on interdisciplinary approaches to education. She currently serves as Associate Provost for Undergraduate Education and Professor of English at Miami University in Oxford, Ohio. In this role, she oversees the University’s accreditation with the Higher Learning Commission, academic policy, interdisciplinary initiatives, academic advising, honors education, faculty development, promotion and tenure, and

general education. Earlier at Miami University, she served as director of the University Honors Program from 2002 to 2012 and was a member of the faculty in the School of Interdisciplinary Studies (Western College Program) from 1993-2006. Dr. Haynes may be contacted at: haynesca@miamioh.edu

Abstract: In the opening credits of the television cult classic *Iron Chef*, Chairman Kaga takes a huge bite out of a big yellow bell pepper. With the ensuing smirk on his face, he introduces the famous “Kitchen Stadium,” which he notes is his “dream in a form never seen before.” What follows is a learning experience in which three chefs with different specializations engage in a timed cooking competition focused on a specific theme ingredient. In this paper that was originally presented in a plenary session at the 2013 Association of Interdisciplinary Studies Conference in Oxford, Ohio, the author extends the Kitchen Stadium metaphor and draws upon the work of Marcia Baxter Magolda and Robert Kegan as well as other interdisciplinary scholars to discuss the challenges and joys of interdisciplinary education and to advance a call for a more developmental approach to interdisciplinary teaching and learning.

Keywords: integrative learning, interdisciplinary learning, student development, self-authorship

Twenty years ago and fresh out of graduate school, I was hired to be an assistant professor in what was then the School of Interdisciplinary Studies (also known as the Western College Program) at Miami University in Oxford, Ohio. Students in this program participated in a series of core interdisciplinary courses, many of which were team-taught by faculty hailing from disparate disciplinary backgrounds. Under the close advisement of a faculty member, students selected disciplinary and interdisciplinary courses to pursue their own self-designed majors and then, in their senior year, completed a major project that integrated knowledge gained throughout their undergraduate career.

Although my dissertation could have been described as cross-disciplinary in that I leveraged historical insights and psychological concepts to analyze literary texts, I actually had no self-conscious awareness of how my work or thinking were interdisciplinary, nor did I have any clue about how to assist students to think or learn in interdisciplinary ways. As a result, when I arrived as a newly minted Ph.D. at the Western College Program, I was thoroughly unprepared for the faculty role into which I had been hired. In fact, the only way that I could make sense of the challenges I confronted were to liken them to those of the television show *Iron Chef*, which coincidentally began the same year I assumed this position. *Iron Chef*, as you no doubt know, was a Japanese television cooking show which began in October 1993 and quickly became a cult classic in the United States.

The supposed story behind *Iron Chef* is recounted at the onset of every

episode. The show's garishly attired host, Kaga, had "realized his dream in a form never seen before" and specially constructed a cooking arena called the "Kitchen Stadium" in his castle. There, visiting chefs from around the world would compete against his Gourmet Academy, led by his own team of Iron Chefs. "Iron Chefs" was the term Kaga used to summon his chefs to the battle. Kaga, who himself was a showpiece, donned outlandish attire and would theatrically launch each show's competition by ravenously biting into a large yellow pepper and exclaiming dramatically, "*Allez, cuisine!*" which loosely translates as "Go, cook!"

Curt Ellison, who was the dean of the School of Interdisciplinary Studies when I was hired, was a sort of an Americanized version of Kaga. I vividly recall Ellison's wide grin welcoming me into what seemed to me at the time an odd but exhilarating and intriguing learning environment at Western and uttering something akin to "*Allez, enseignez!*" or "Go, teach!" And like the host on each *Iron Chef* episode, every semester, Ellison would enjoin me, along with my colleagues, to improvise several multi-course meals around theme ingredients (sometimes exotic and sometimes provincial), such as rites of passage, the nature of human nature, global climate change, or utopias.

Because like most doctoral students I was trained to address questions and problems from a rather confined perspective, using a limited set of ingredients (that is, subdisciplinary concepts, assumptions, terms, and methods), I was frankly terrified at the prospect of having to deal with unwieldy themes in which I had no formal training—not to mention doing so with and in front of colleagues who would one day evaluate me for tenure and promotion. Only later, after I came into contact with a colleague in the School of Education, Marcia Baxter Magolda, who is one of Miami's distinguished professors and a renowned educational researcher, did I come to realize why the prospect of tackling the challenges afforded to me in this new professional environment seemed so onerous.

A couple of years into my new job, I went to lunch with Marcia, and she made the mistake of asking me how I was doing. After listening to my litany of worries, she smiled reassuringly and encouraged me to read a book entitled *In Over Our Heads* by the developmental theorist Robert Kegan (1994). In his book, Kegan envisions life as a challenging curriculum which continuously proffers each of us the opportunity to learn and grow. Much of the book is directed either explicitly or implicitly at educators, and at one point, Kegan advances this important caution:

The one circumstance we'd want to avoid at all costs, put metaphorically, would be something like this: parents who can only drive an automatic find themselves behind the wheel of a stick-shift

car, and the car is loaded with children. (p. 102)

What I came to realize is that not only was I “in over my head” as a new assistant professor of interdisciplinary studies, but so too were my students when they entered into the interdisciplinary learning environment. We were in a kitchen and did not know how to use the ingredients and tools, and of greater concern, some of the cutlery had sharp edges.

Research studies suggest that many adults as well as college students struggle to meet the mental demands of the Kitchen Stadium of Life (e.g., Baxter Magolda, King, Taylor, & Perez, 2008; Blaich & Wise, 2008; King, Baxter Magolda, & Masse, 2008) in part because they have not yet developed a mature order of mind (Baxter Magolda, 2001; Kegan, 1994). To excel in life as well as in the interdisciplinary learning and discovery environment requires what Kegan and Baxter Magolda call self-authorship, which entails cognitive maturity, an integrated sense of personal identity, and mature relationships with diverse others (Baxter Magolda, 2004). Kegan argues that self-authorship requires us to “take charge of the concepts and theories of a course or discipline, marshaling on behalf of our independently chosen topic its internal procedures for formulating and validating knowledge” (1994, p. 303). According to him, self-authorship requires cultivating a secure sense of self that enables interdependent relations with others and making judgments through considering but not being consumed by others’ perspectives.

Unfortunately, undergraduate students typically enter college relying on perspectives they have uncritically accepted from others and are not sufficiently challenged and supported to transition to internal authority during college (Baxter Magolda, 1992; Kegan, 1994; King & Kitchener, 1994; Perry, 1970). And in fact, it became evident to me after reading Kegan’s and Baxter Magolda’s work, that I was still following external authorities’ perspectives, even after having completed my doctoral education. One reason that I and many college graduates had not reached self-authorship is that this level of maturity is not achieved easily or automatically. Just as Iron Chefs do not emerge overnight, the journey toward self-authorship is a developmental process. It involves moving from following external formulas conveyed by authority figures (adhering strictly to cookbook recipes, if you will), through an intermediate stage (what Baxter Magolda refers to as “standing at the crossroads”) in which one’s internal voice begins to rework those recipes or question external formulas, to internally defining one’s beliefs, identity, and social relations—or to put it another way, generating one’s own original culinary delights (Baxter Magolda 2001, 2004).

One’s passage along the journey, however, does not necessarily occur in a unidirectional, evenly paced manner. The journey’s trajectory is shaped by

one's socially constructed identity, personal history and attributes, and styles of learning. If you exhibit a greater willingness to move outside of your comfort zone or your social identity places you outside the hegemonic norm, you may move along the path toward self-authorship more quickly than those who are comfortable conforming to majority perspectives and following traditional formulaic norms. According to constructive-developmental theorists such as Jean Piaget (1950), people construct reality by interpreting their experiences, and the ways of constructing reality evolve according to those norms presented by the authorities in our lives. We can continue to follow these formulas and will, as a result, likely experience little, if any, developmental movement. Those who have privileged lives tend not to face dissonance and thus may not develop. Or, conversely, those who experience extreme challenges may completely reject the new perspectives brought forward by those challenges because they are staggeringly devastating. When this situation occurs, individuals may stagnate, continuing to cling to the formulas of their external authority figures.

Many of us have the opportunity to develop when we encounter experiences that cannot be understood or addressed by the rules we typically use. Initially, we regard the perspectives generated by those experiences as exceptions. However, when too many exceptions overwhelm our current meaning-making structure, we may adjust that structure to a more complex one that accommodates the new perspectives. For example, as a doctoral student, I was socialized to uncritically accept the discursive norms of poststructuralist feminist literary critics and to teach in the ways in which I had been educated. Once I came to Miami's School of Interdisciplinary Studies and had to co-design and teach courses with colleagues with conflicting epistemologies and personality clashes, I was prompted to reconsider my own assumptions about knowledge, relationships, and my own identity. Similarly, when undergraduate students who believe that knowledge is certain and possessed by external authorities are challenged and sufficiently supported in college to learn to evaluate knowledge claims, they may begin to question authorities and norms. If new perspectives continue to unsettle their thinking, they may eventually exchange their initial meaning-making structures for more complex ones.

This movement does not come easily or without emotional stress. For example, I had to figure out what I believed, who I was, and how I wanted to relate to others while trying to prepare for tenure in a working environment rife with strong and conflicting personalities who had very disparate worldviews and perspectives on teaching. If the dissonances afforded by my pre-tenure experience of team teaching numerous courses with a differing faculty did not fully transform me, I was given the opportunity to take an enormous bite out of the yellow pepper a few years later. Following my winning of tenure, I

signed on to become the director of the University's Honors Program. Shortly thereafter, the President and Provost in place at that time decided to close the School of Interdisciplinary Studies. Unfortunately, I was wrongly blamed for the demise of the program by many of my interdisciplinary colleagues, and in the face of this turmoil, I questioned my identity as an interdisciplinary scholar and teacher.

Yet, through the mentorship of my supportive colleague, Marcia Baxter Magolda, I remembered that development may be fueled by personal or professional disequilibrium. Her scholarly work reminded me that this painful experience could help me confront those same thorny developmental questions that had haunted me throughout my adult life. Put another way, this personally upsetting event could teach me who I was, what I believed, and what types of collegial relationships I wanted to cultivate. Although the process which propelled my personal development is not something I would wish on anyone, Marcia's work helped me to see that it did have its up sides. I learned to stop worrying about what others thought of me and came to understand and focus on what I valued and found meaningful. And surprisingly, rather than reject my role as an interdisciplinary thinker, scholar and teacher, I embraced it even more fully.

In fact, I set about cultivating in the University Honors Program an integrative learning environment, following the definition of integrative learning advanced by Julie Klein as "an umbrella term for structures, strategies, and activities that bridge numerous divides, such as high school and college, general education and the major, introductory and advanced levels, experiences inside and outside the classroom, theory and practice, and disciplines and fields" (2005, p. 8). I knew that such a goal would be much more challenging, given that the Honors Program served over 1500 students from every major across the University and had no core faculty assigned to it nor any core or permanent courses in its curriculum (Haynes, 2006; Taylor and Haynes, 2008). To achieve this goal, I worked with the Honors staff to develop a program in which students were asked to demonstrate evidence of meeting a sequenced set of outcomes through an annual learning contract and e-portfolio. The outcomes were promoted through a tiered curriculum and co-curriculum that aimed to steadily lead students toward independent research, service, or creative activity as well as develop their capacity to engage in mature relationships and to make decisions based on an internal belief system.

The first tier was designed to target students in early levels of young adult development. The second tier was designed for students in intermediate levels, and the third tier for students in advanced levels. Ultimately, these three tiers provide a sequence of learning experiences that help students meet those outcomes and move gradually and intentionally toward personal, relational,

and intellectual maturity. The first tier focuses on assisting students in gaining foundational competencies in scholarship, leadership, and service; the second tier features students beginning to undertake authentic research, service, and leadership tasks with support and guidance from faculty/staff; and the third tier offers students the opportunity to plan, design, and implement their own scholarly, leadership, and service projects with continuous feedback and self-reflection.

In her twenty-year longitudinal study of young adults, Marcia Baxter Magolda found that learners develop more fully when they are given appropriate levels of challenge and support. This combination can be advanced when:

1. Students are validated as capable of producing knowledge—that is, their perspectives are solicited and respected;
2. Learning is situated in students' experience. In other words, activities and assignments intended to foster learning ask students to initially draw upon their current ways of making meaning and then steadily encourage them to consider new perspectives and ways of knowing;
3. Authority and expertise are shared in mutual construction of knowledge. Students recognize how they can best contribute to the learning community as a whole; they share their own ideas as well as remain open to those of others. (Baxter Magolda, 2004, pp. 42-43)

These principles, along with carefully sequenced learning experiences, comprise what Baxter Magolda calls the “Learning Partnerships Model,” and they formed the bedrock of the University Honors Program. Students were required to complete an e-portfolio in which they reflected on their development in terms of learning outcomes or competencies, including integrative learning.

Although the University Honors Program had no core curriculum or intentional inclusion of interdisciplinary courses and although the vast majority of its students were not pursuing interdisciplinary majors, its students were nevertheless asked to achieve three staged outcomes related to integrative thinking and learning:

1. **Introductory Outcome:** Identify and analyze two or more legitimate perspectives on an issue;
2. **Intermediate Outcome:** Compare and contrast two or more disciplinary ways of knowing; make thoughtful connections between these ways of knowing as well as between them and your academic and personal experiences;

3. **Advanced Outcome:** Integrate knowledge of yourself (e.g., passions, values, strengths, limitations) and various disciplines/fields to address a personally meaningful problem, question, or project.

Students were asked each year to post work and reflect on their development in relation to the integrative learning outcomes in an e-portfolio. The reflections and student work were scored using a rubric (see Appendix A).

The reason for including integrative learning as one of the outcomes for the program was my belief that integrative environments have the potential to promote self-authorship more readily than traditional disciplinary learning experiences precisely because the best and most pioneering interdisciplinary work, like an inspiring dish concocted in the famous Kitchen Stadium, is often messy, discovery-oriented, and highly collaborative. Learners work together dynamically to invent new ways to address or pursue questions or projects.

Bill Blumer, author of *Off the Eaten Path*, describes cooking as an art in which “ingredients trump appliances, passion supersedes expertise, creativity triumphs over technique, spontaneity inspires invention, and wine makes even the worst culinary disaster taste delicious” (<http://allacucina.com/>). His description bears a remarkable resemblance to Wentworth and Davis’s definition of interdisciplinarity as the pursuit of “a full, self-consciously integrated understanding of the topic” that sparks inside the learner “healing, creating new opportunities, building self-esteem, recognizing unsuspected abilities and interests, developing new views of the world and new commitment” (2002, p. 35). And it complements Klein and Newell’s definition of interdisciplinarity as “a process of answering a question or addressing a topic by drawing on disciplinary perspectives and integrating their insights to construct a more comprehensive perspective” (1998, p. 3). As Klein and Newell’s definition so aptly reminds us, interdisciplinary learning prompts us to engage multiple disciplines and fields, uncover disjunctures and unexpected synergies, and find ways to make connections to unleash a fuller interpretation, a new solution, or a follow-up question that allows us to probe a topic even more fully. This is the essence and the exhilarating joy and sometimes the agony of interdisciplinary inquiry—that moment when you are able to reconsider the way you (and even perhaps others) make meaning or understand truth.

Veronica Boix Mansilla (2005) has unpacked and articulated the underlying elements of interdisciplinary learning in a useful way. According to her, the purpose of the interdisciplinary exploration should prompt or shape the process of inquiry. The project’s purpose helps to determine which disciplinary insights are relevant and how disciplines may be combined to reach the intended outcomes. Second, interdisciplinary work draws from insights,

findings, methods, techniques, languages, and modes of thinking in two or more disciplines or areas of expertise. Third, interdisciplinary work invites learners not only to use multiple disciplines but to integrate them. When disciplines are combined, new understandings are possible. For example, by integrating a new discipline like visual art in a study of the civil rights movement, students may grasp the meaning of the movement in an evocative work of art—one that a non-artistic approach might not encompass. Finally, interdisciplinary work invites thoughtful engagement with the topics of study. Students explore diverse explanations for social or natural phenomena, or they seek out more comprehensive accounts of human experience. The ability to wrestle purposefully with differing perspectives epitomizes the interdisciplinary learning process (Boix Mansilla, 2005, 2012).

So, how does one actually foster this mysterious entity called “integration”? One of the most basic but critical strategies is to spend time comparing and contrasting the ways that different disciplines make sense of the world or of a particular topic of study. Rick Szostak’s “Classification of Phenomena” in his book *Classifying Science* (2004, pp. 62-65) as well as the fourth and eighth chapters in Allen Repko’s book *Interdisciplinary Research: Process and Theory* (2008) offer particularly useful tips for supporting this strategy. A second way of promoting integration is to create new metaphors or visual images that integrate multiple disciplinary insights and apply to the topic of study. Boix Mansilla calls this “aesthetic synthesis” in which the meaning of a scientific, historical, or social problem is distilled in a metaphor or work of art.

A third possibility is borrowing, such as taking an existing concept, principle, method, technique, or set of data from one discipline and applying it to another in hopes of enlarging, enriching, or clarifying the understanding of the topic at hand. Fourth, one can articulate a comprehensive framework, explanation, or interpretation that integrates the disciplinary aspects of a topic, problem, issue, or phenomenon into a larger whole, such as in the case of an inquiry into the problem of global warming. Marcia Bundy Seabury recommends examining topics from a zoom and then a wide angle lens to help students experience the power of interdisciplinarity (2002, p. 55). A fifth way to achieve synthesis is through integrative action in an interdisciplinary group (Wentworth & Davis, 2002, p. 26). For example, a group of senior capstone students from different majors can select a problem, use everyone’s expertise to get as broad and deep a view of the problem as possible, generate a proposal for action, and either carry it out or present it to a body that has the power to carry it out. Many kinds of service learning courses or other experiential learning activities have much to offer as opportunities for integrative action when they are conceptualized and analyzed as interdisciplinary.

Scholars such as Newell (2000), Repko (2008), and Boix Mansilla (2012) have generated other ideas for promoting integration, including translation, resonance, redefinition, theory expansion, and organization. Whichever strategy is deployed will work more effectively when it is accompanied by meta-cognitive reflection. Having a clear idea of exactly how the disciplines are to be leveraged and integrated and an explicit understanding of the purpose behind the interdisciplinary project will help make the quality of the project better but also better ensure that the skills and processes gained in this project will be transferred for use in other contexts.

Leveraging these strategies can promote integrative thinking and learning. However, students are typically not able to produce sophisticated interdisciplinary work in their first year of college. A study that my former colleague Jeannie Brown Leonard (2010) and I conducted a number of years ago on college students' evolving understanding of interdisciplinarity found that students (all of whom were pursuing an interdisciplinary degree) not only evolved in terms of their grasp of the definition of interdisciplinarity but also in terms of their view of self and others in relation to interdisciplinary learning. First-year students were enthusiastic about the prospect of pursuing interdisciplinary studies, but they did not have a clear understanding of what a discipline was, and they did not perceive themselves as agents in interdisciplinary knowledge construction. Nor could they articulate a clear definition of interdisciplinarity. When asked to explain interdisciplinarity, they typically related it to the pedagogical approaches they experienced in the interdisciplinary classroom, e.g., "It is about small classes and knowing your faculty by their first names."

By the middle years of college, interdisciplinary students were much more aware of disciplines, the differences among disciplines, and the limits of disciplinary knowledge. They were gaining an understanding of how their worldview as interdisciplinarians compared to those of their disciplinary peers. Although they did not yet see themselves as generators of interdisciplinary knowledge, they were aware that interdisciplinary questions and problems defied absolute answers and required significant investigation and thought that drew upon multiple disciplinary insights. In their senior year, interdisciplinary students were beginning to conceive interdisciplinarity as a part of their identity and to entertain the possibility that they could exert agency over the integrative process. Some students could articulate their own definitions of interdisciplinarity, and most saw disciplines as social constructions and interdisciplinarity as a collaborative process of inquiry.

Interdisciplinary faculty can promote students' development at each stage through the principles of the Learning Partnership Model.

LPM Principle	Introductory Stage	Intermediate Stage	Advanced Stage
Validate students as knowledge-producers	Scaffold activities and assignments to prompt students to gain disciplinary and then interdisciplinary understanding and confidence as interdisciplinary thinkers. Make criteria for good interdisciplinary work transparent and clear.	Help students forge their own support networks. Encourage them to take pride in themselves as interdisciplinary scholars, yet also learn to appreciate the value of rigorous disciplinary thinking.	Identify strategies for coping with emotional and intellectual obstacles to the integrative process, and encourage them to take purposeful risks to work outside conventional academic norms.
Situate learning in students' experience	Become familiar with students' interests. Honor students' viewpoints by drawing upon their experiences and expertise. As time progresses, introduce them to new disciplinary perspectives.	Provide the chance to apply in-class learning to out-of-class situations. Share diverse models of integrative work (created by experienced scholars as well as the students themselves).	Foster a collegial climate where differing perspectives can be exchanged.
Mutually construct knowledge	Steer away from "the position of omnipresent authority" by sharing their own musings, struggles, and mistakes as an interdisciplinary investigator (Baxter Magolda, 1999, p. 71).	Offer opportunities for student decision-making and original thought (including the opportunity to generate one's own conceptions of interdisciplinarity).	Invite students to reflect on and make connections among the disciplinary, interdisciplinary, and other forms of knowledge gained during the undergraduate experience.

Interdisciplinary learning, at its best, is like recipe-less cooking with exotic and perhaps unknown ingredients and a hybridity of tools and techniques you must marshal spontaneously for the purpose at hand—you are always

venturing into the unknown, experimenting, tasting, adjusting, re-tasting, and reflecting. You will sometimes recoil at your concoctions, grit your teeth, wipe your lips, throw out your recipes, or stay up nights ruminating on a new idea, problem, or issue that arose in your thinking. You will make many mistakes—but with the right attitude, you will learn—and occasionally find inspiring new directions—from those mistakes. What’s even better—you will experience the joy of learning new things, of experiencing new dishes, so to speak, and asking new questions or seeking out new methods and directions. Perhaps this is why the recent survey of over 300 of the top employers conducted by Hart Research Associates (2013) found that industries and professions seek college graduates who exhibit outcomes that not coincidentally resemble those most of us interdisciplinary educators strive to instill in our students.

The interdisciplinary classroom, lab, or work space is akin to the chef’s kitchen, and I would further suggest that the Association of Interdisciplinary Studies (AIS) is the Grand Kitchen Stadium of Interdisciplinarity. It is a place, as Paul Theroux notes, where “confident guesswork and improvisation—experimentation and substitution, dealing with failure and uncertainty in a creative way”—are cultivated and embraced (2000, p. 170). If you have been a member of AIS for a long time, you already know this—but I urge you to celebrate the AIS Stadium and continue to make it exciting, forward-reaching, and international in scope. If you are new to AIS, welcome to its warm, welcoming and dynamic community—and inspired by the words of Kaga, I urge you to “*Allez, enseignez*”—“Go, Teach!”

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Appendix A: Integrative Thinking Rubric
University Honors Program, Miami University

Competency Area: Critical & Integrative Thinking		
Level	Brief Description	Indicators
1	<i>Unaware of obvious points, major misunderstandings</i>	<ul style="list-style-type: none"> • Fails to summarize points accurately • Misunderstands or is unaware of obvious perspectives on the topic • Thinking is not focused
2	<i>Single perspective</i>	<ul style="list-style-type: none"> • Addresses only a single position or view • No evidence of outside sources or consideration of other perspectives • Analysis may be founded in absolutes with no acknowledgement of own biases
3	<i>Multiple, but undeveloped, perspectives</i>	<ul style="list-style-type: none"> • Does not consider nuances of the topic and the perspectives on it • Evidence or claims are rather obvious and general • Mentions another perspective(s) that is different from their own, but fails to develop it • Sources may exist, but they are obvious (e.g., dictionary definition) and show little depth of engagement or analysis
4	<i>Multiple perspectives, with some analysis, routine sources</i>	<ul style="list-style-type: none"> • Position includes some original thinking and analysis • Acknowledges additional but obvious perspectives and provides general explanation of them • Outside sources are present and generally cited correctly
5	<i>Multiple perspectives, with insightful analysis and sources</i>	<ul style="list-style-type: none"> • Takes thoughtful position on complex or dissonance-inducing topic • Advances persuasive argument or insightful analysis • Demonstrates awareness of multiple perspectives (obvious and more subtle) and can represent them in thoughtful manner • Appropriate and thoughtful use of data/evidence and sources

6	<i>Insight into counter-positions and disciplinary application and analysis</i>	<ul style="list-style-type: none"> • Accurately applies a complex disciplinary or other concept to explain, interpret or address a phenomenon • Fairly articulates and develops information against (and not just for) one's position • Identifies some implications and consequences of alternative scholarly, disciplinary, or theoretical viewpoints
7	<i>Comparison and contrast of disciplinary frameworks, concepts</i>	<ul style="list-style-type: none"> • Understands, compares and contrasts two or more disciplinary concepts or frameworks (e.g., scientific, humanistic, artistic) • Recognizes characteristics, assets and liabilities of various disciplines, schools of thought, frameworks • Demonstrates ability to situate one's thinking among various perspectives; ideas beginning to be aligned with own beliefs
8	<i>Evaluation of disciplines</i>	<ul style="list-style-type: none"> • Demonstrates awareness of disciplines as constructed; understands and evaluates the underlying assumptions of disciplines • Perceives connections among and usefulness of various thought systems • Sees the limitations of one's own major and how other systems of thought might be useful in advancing understanding of a given topic
9	<i>Integration of disciplinary insights</i>	<ul style="list-style-type: none"> • Demonstrates ability to make own connections across disciplines and other fields of thought (through comparison, application, or synthesis) • Demonstrates ability to situate one's voice in the material under study and presents ideas that are aligned with one's belief system
10	<i>Original disciplinary insights</i>	<ul style="list-style-type: none"> • Actively engages with, critically evaluates, and integrates diverse knowledge systems (e.g., disciplines, cultures, fields, communities) to produce an original finding that is aligned with one's belief system • Sees self as a perpetual thinker who has more to learn and recognizes that knowledge must be constructed within disciplinary and other contexts